Lesson Plan by: Lauren Houser
Lesson: Math, Arranging numbers in order up to 1,000
Length: 35-40 minutes
Age or Grade Intended: 3rd Grade

Academic Standard(s):

> *3.1.5   Compare whole numbers up to 1,000 and arrange them in numerical order.*

Performance Objectives:

> Given a set of 4 numbers, students will be able to arrange the numbers in numerical order with 80% accuracy.

Assessment:

> Students will complete the worksheet entitled "Comparing Numbers". Teachers will check the worksheet for accuracy and record which students reached the objective and which did not.

Advanced Preparation by Teacher:"

- o Access to a chalkboard or whiteboard
- o Chalk or dry erase markers (depending on the type of board being used)
- o A set of tiles with the numbers 1-9 written on them.
- o A copy of the double sided worksheet "Comparing Numbers"

Procedure
Introduction/Motivation:

1. Call the students attention to you at the front of the room. Ask the students how many of them think they could count to 1000.

   Bloom's: Knowledge

   Gardner's: Logical-Mathematical

2. Ask the student what the biggest number that is not 1000 is. Write right hand side of the board.

   Bloom's: Knowledge

   Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical

3. Ask the student what the smallest number is. Write it on the left hand side of the board.

   Bloom's: Knowledge

   Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical

4. Ask the students to pick a number between 1 and 999. Write it in the middle.

   Bloom's: Knowledge

   Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical

5. Ask the students to pick a number that is smaller than the student choice from question 4. Write it between 1 and the student choice number written in the middle of the board.

   Bloom's: Knowledge

   Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical

6. Tell the students that they are now going to be playing a game in groups. The purpose of the game will be to try and build the biggest number that they can.

Step-by-Step Plan:
1. On the chalkboard draw three horizontal lines. _____ _____ _____
2. Tell students that you are going to be drawing three tiles from a jar. After you draw each number the class will decide where to put the number (line 1, line 2, or line 3). Tell students that once a number is written down it cannot be erased.
3. From the set of number tiles, draw one. Show students the tile. Ask the students which line the number should go on. Write the number on the line. Return the tile to the drawing bucket.

Bloom's: Knowledge

Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical, Interpersonal
4. Draw another tile and show the students. Ask the students which line the number should go on. Write the number on the line. Return the tile to the drawing bucket.

Bloom's: Knowledge

Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical, Interpersonal
5. Draw the final tile from the box. Show the students and write the number on the remaining line.

Bloom's: Knowledge

Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical, Interpersonal
6. Ask a student volunteer to read the number.

Bloom's: Knowledge

Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical, Interpersonal
7. Ask the student if that is the largest number they could have possibly made (For example, the numbers 3 5 2 is not the largest number students could have made but rather 5 3 2 would be.).

Bloom's: Knowledge, Comprehension

Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical
8. Write the largest number the students could have made on the board and circle it.
9. Ask the students what the smallest number they could have made would be and write that number on the board.

Bloom's: Knowledge, Comprehension

Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical
10. Tell the students that they are now going to be playing a game in which they will try and create the biggest number possible, like the class just did. Tell the students that you are going to put them in groups and they will work together to come up with the biggest number possible.
11. Put the students into groups of 3 or 4 (use their desk partners or table mates).
12. Give each person a copy of the "Comparing Numbers" and have students turn to the side of the worksheet that says "Group Activity". It will have a picture of two students working in top right corner.
13. Draw a tile. Read the number to the students and the students decide within their groups where to place the number. Replace the title in the bucket. Also, remind students that once they put a number down it cannot be changed. All students need to be writing the group's choice for number placement on their own papers.

Bloom's: Knowledge

Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical
14. Draw the second tile and have the students decide where to place that number on their remaining two lines.
15. Draw the third tile and have the groups write the number on their remaining line.

16. Have a student volunteer from each group come up to the board and write their number on the board. Have the student volunteer read their number to the class.
17. Ask the class which number is the largest and circle it.
Bloom's: Knowledge, Comprehension
Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical
18. Ask the students why they think that number is the biggest.
Bloom's: Knowledge, Comprehension, Analysis
Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical
19. Have the students write down the biggest number on line one of their paper.
20. Ask the students which number is the second biggest number and why that number is the second biggest. Have students write the number from the board on line two of their papers.
Bloom's: Knowledge, Comprehension, Analysis
Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical
21. Ask the students which line is the third biggest, why it is the third biggest, and have students record their choice on line three of their papers. Repeat the process of figuring out the next biggest numbers with the remaining numbers on the board.
Bloom's: Knowledge, Comprehension, Analysis
Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical
22. Erase the board and repeat steps 12-21 again with new numbers drawn.
23. Erase the board and repeat the activity again but only repeat steps 12-16. Have the students write the numbers on the board in order from greatest to least on their papers. Students are to complete this by themselves.
Gardner's: Logical-Mathematical, Interpersonal
24. Have students check their answer with their groups members.
Bloom's: Knowledge
Gardner's: Verbal-Linguistic, Logical-Mathematical, Intrapersonal
25. Call on a member from each group to tell you what the biggest number was, the second biggest, third, etc and write the numbers on the board in order from greatest to least.
Bloom's: Knowledge
Gardner's: Verbal-Linguistic, Visual-Spatial, Logical-Mathematical
26. Tell students to turn their worksheets over and being working independently. Have students hand in worksheet when completed and then read quietly at their desks till everyone is done.

Closing
1. Call the students attention to the front of the class.
2. Draw three new lines on the board.
3. Repeat the activity done at the beginning of class. Draw a tile and ask students where to place the number. Replace the number.
Gardner's: Visual-Spatial, Logical-Mathematical, Interpersonal
4. Draw a new number and ask students where to place the number. Replace the tile.
Gardner's: Visual-Spatial, Logical-Mathematical, Interpersonal
5. Draw the remaining tile and place the number on the remaining line.
Gardner's: Visual-Spatial, Logical-Mathematical, Interpersonal

6. Ask the students why they placed the number ___ [insert the tile chosen here] on the first line. Ask the students why they choose to put the number ____ [insert the tile chosen here] on the last line.
Bloom's: Knowledge, Comprehension, Analysis
7. Ask students what the biggest number possible would have been.
Bloom's: Knowledge, Comprehension, Analysis
8. Ask students what the smallest number possible would have been.
Bloom's: Knowledge, Comprehension, Analysis
9. Tell students that when they have large numbers they need to look carefully at all the numbers in the hundreds, tens, and ones place before deciding which number is bigger.

Adaptations/Enrichment:
For 2 students who need enrichment: The student will draw the three number tiles and will write from greatest to least the six possible combinations for the three number tiles (For example: 1, 2, 3 would become 321, 312, 231, 213, 132, 123). The student will repeat the process two more times and then check their work with the other student also completing the enrichment.

For 2 students with learning disabilities: The students will be allowed to work with a partner to complete the worksheet. The students will an enlarged piece of paper to compensate for poor handwriting skills. The students will be allowed to use the number lines generated on http://themathworksheetsite.com/numline.html.

For student whose 2nd Language in English: The student will be allowed to work with a partner, if needed, to complete the worksheet.

Student with Central Auditory Processing Disorder: Student will work on their worksheet at the back table in the room by the coat closet. Student will use headphones to block out the noise.

For the student with ADHD: This student will draw the numbers from the number bucket and read the number allowed to the class. Student will also be allowed to stand up and walk to the teacher's desk to exchange his pencil with a new one after completing two of the worksheet problems.

Self-Reflection:
Did I leave enough time for completing the game? Should I have provided more or less time to complete the worksheet?

Do the students understand my questions? Were they able to explain why one number was bigger than another? Could they explain why they choose to place a certain number on a certain line during the game?

Were students able to work cooperatively during the game without getting too distracted?

Were the students able to accomplish the task successfully?

Was the worksheet too easy for the students? Was the game too hard for the students? Should I have let all students work with a partner on the worksheet? Should I have made the game shorter?

Did the students understand what I was asking them to do and pass the assessment part? If they did not pass, why did they not pass (not paying attention, didn't "get it", other reasons)?

Name: _____

Comparing Numbers

Directions: With your group listen to the number tiles drawn. Decide as a group -- on which line you will write the number. Then write the numbers on the board from greatest to least when the teacher says so.

_____

Game 1

_____   _____   _____

Greatest to Least:

_____, _____, _____, _____

Game 2

_____   _____   _____

Greatest to Least:

_____, _____, _____, _____

Game 3

_____   _____   _____

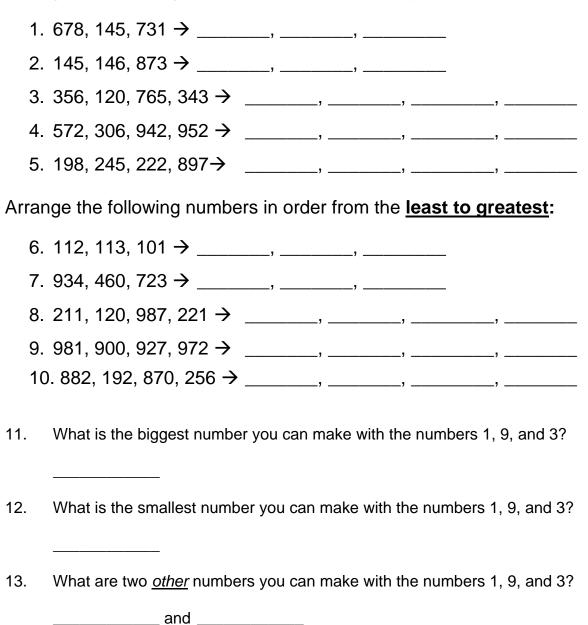Greatest to Least:

_____, _____, _____, _____

Name: _____

Comparing Numbers

Directions: Complete the worksheet by yourself. Follow the directions above each set of numbers.

Arrange the following numbers in order from the **greatest to least:**

1. 678, 145, 731 → _____, _____, _____

2. 145, 146, 873 → _____, _____, _____

3. 356, 120, 765, 343 → _____, _____, _____, _____

4. 572, 306, 942, 952 → _____, _____, _____, _____

5. 198, 245, 222, 897→ _____, _____, _____, _____

Arrange the following numbers in order from the **least to greatest:**

6. 112, 113, 101 → _____, _____, _____

7. 934, 460, 723 → _____, _____, _____

8. 211, 120, 987, 221 → _____, _____, _____, _____

9. 981, 900, 927, 972 → _____, _____, _____, _____

10. 882, 192, 870, 256 → _____, _____, _____, _____

11.   What is the biggest number you can make with the numbers 1, 9, and 3?

       _____

12.   What is the smallest number you can make with the numbers 1, 9, and 3?

       _____

13.   What are two _other_ numbers you can make with the numbers 1, 9, and 3?

            _____ and _____

14.   Circle the number from above that is bigger.